

u1
(ind.)
applying the laser output pulses to the target so that the laser output pulses cleanly remove at least two layers within the spatial spot size.

A2
3. (Amended) The method of claim 2 in which the organic dielectric material [is selected from] comprises PTFE, polyimides, epoxies, BT, phenolics, cyanate esters, paper, cardboard, or combinations thereof; the reinforcement material [is selected from] comprises glass, aramid fibers, *Kevlar* TM, ceramics, or combinations thereof; and the metal [is selected from] comprises aluminum, titanium, nickel, copper, tungsten, platinum, gold, molybdenum, palladium, silver, or combinations thereof.

✓ Claim 5, line 2, delete [structure].

✓ Claim 6, line 2, after "is", insert

--less--

A3
B
in diameter
4. (Amended) The method of claim 1 in which [the] several pulses are employed to remove a spatial region of the target [area] that is greater than 25 μ m.

✓ Claim 9, line 2, delete [target].

A4
13. (Amended) [A] The method of [increasing the saturation depth of cut per pulse in a target material as a function of increasing power density of a laser beam pulse striking the target material to cause a depthwise removal of target material within a spatial region thereof, comprising:

producing high-power ultraviolet light output pulses generated by a solid-state laser, the light output pulses having a power density per pulse and] claim 1 in which the spatial spot size defines a spot area that is smaller than [the] and lies within a spatial region of the target [material; and], the method further comprising:

directing the [light] laser output pulses sequentially to multiple positions associated with the spatial region to remove multiple amounts of target material corresponding to the spot [area and with minimal depth of cut per pulse saturation to a

94
Amid.

depth corresponding to the power density per pulse of the light output pulses] areas.

✓ Cancel claim 14.

Amend claims 15 and 16 as follows.

✓ Claim 15, line 3, change [light] to

--laser--.

✓ Claim 16, line 3, change [light] to

--laser--.

Cancel claims 18-21.

A5 Sub 62
~~2022~~ The method of claim 1 in which each pulse cleanly removes at least two layers within the spatial spot size.

✓ Add the following claims.

21 ~~23~~ The method of claim 1 further comprising creating a blind via having a depth:diameter aspect ratio that is greater than 1.--

22 ~~24~~ The method of claim 1 further comprising creating a via having a depth:diameter aspect ratio that is greater than 2.--

23 ~~25~~ The method of claim 24 in which the via is a through hole.--

A6 Sub 12
B
--26. The method of claim 15 in which the laser output pulses are generated at a repetition rate of greater than about 1 kHz; in which the target comprises at least an organic dielectric material, a reinforcement material, and a metal; and in which the organic dielectric material comprises PTFE, polyimides, epoxies, BT, phenolics, cyanate esters, paper, cardboard, or combinations thereof; the reinforcement material comprises glass, aramid fibers, Kevlar, ceramics, or combinations thereof; and the metal comprises aluminum, titanium, nickel, copper, tungsten, platinum, gold, molybdenum, palladium, silver, or combinations thereof.--

B
--27. The method of claim 26 in which the spatial spot size is less than about 50 μm , ^{in diameter and} the layers have a combined depth of greater than about 25 μm .--